

APPENDIX D

SEQUENTIAL REMEDIATION PLAN

The algorithm used by Hall-Kimbrell is a modification of the Sawyer algorithm accepted by the United States Environmental Protection Agency. The modified Sawyer algorithm is highly regarded within the industry. Data acquired using the algorithm exhibit a high degree of validity and are an accurate representation of the material.

The algorithm consists of six additive and two multiplicative variables. The additive variables are material condition, water damage, exposed surface area, accessibility, activity and movement, and air plenum. All these variables are qualitative in nature. The multiplicative variables are friability and asbestos content. Asbestos content is the only quantitative variable. The algorithm is weighted with respect to friability and asbestos content since these variables will have the greatest affect on the exposure potential.

Due to the range used for each variable, the resultant value of the algorithm is 1 to 162. This number is referred to as the exposure potential. The field of exposure potential numbers is divided into four priority levels. A table listing the exposure potential range with the associated priority level follows.

<u>Exposure Potential</u>	<u>Assigned Priority Level</u>
60 - 162	Priority Level I
40 - 59	Priority Level II
20 - 39	Priority Level III
01 - 19	Priority Level IV

Little difference exists between the high and the low exposure numbers for consecutive priority levels. In other words, a Priority Level II value of 59 is nearly identical to a Priority Level I value of 60. The multiplicative variables have the greatest affect in the determination of exposure potential and further explanation follows.

Friability is defined as the ease with which a material, when dry, can be crumbled or reduced to dust by hand pressure. The values range from 1 (hard to crumble) to 3 (easily crumbled) in whole number increments. A slight change in friability can result in a dramatic change in exposure potential and priority level.

Asbestos content is a composite percentage of all types of asbestos found in the sampled material that has been analyzed by Polarized Light Microscopy with Dispersion Staining. The multiplicative values based on asbestos content used in the algorithm are as follows:

<u>Asbestos Content</u>	<u>Multiplicative Value</u>
<1%	0
1 - 50%	2
>50%	3

A one percent change in asbestos content (i.e. 50% to 51%) may have a substantial effect on the exposure potential and the assigned priority level. With all other variables for a given material equal, this one percent change in asbestos content could elevate the area from a Priority Level III to a Priority Level I.

Due to the factors previously discussed, the numerical value for exposure potential cannot be used as an absolute ranking system, but should be used as a guideline. In devising a sequential abatement or remediation program, the following aspects should be incorporated. Both the exposure potential and the frequency of occupation should be considered. This will, for example, prevent a situation in which an infrequently accessed tunnel with an exposure potential of 90 is remediated prior to a continuously occupied production floor with an exposure potential of 60. Consideration should also be given to lower priority level materials found in proximity to Priority Level I areas. It is highly cost effective to remediate all asbestos-containing materials within a given containment area versus erecting individual containments as each priority level is remediated in turn.